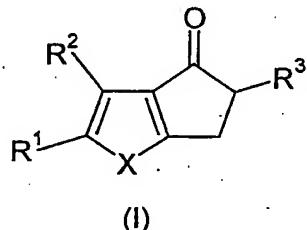


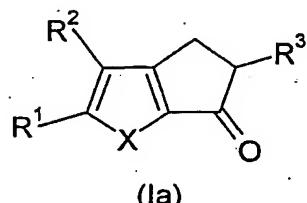
We claim:

1. A process for preparing heterocyclic ketones of the formulae (I) or (Ia)

5

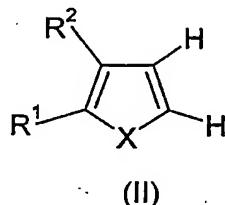


10



by reacting a heterocyclic compound of the formula (II)

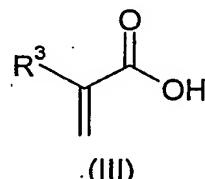
15



20

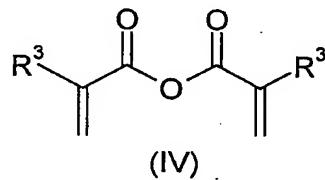
with an α,β -unsaturated carboxylic acid of the formula (III)

25



or with its anhydride of the formula (IV)

30



40

which comprises performing the reaction in a liquid reaction medium which comprises at least one strong organic acid and at least one water absorbent, where the strong organic acid has a higher acid strength than the carboxylic acid of the formula (III) by adding simultaneously the heterocyclic compound of the formula (II) together with the α,β -unsaturated carboxylic acid of the formula (III) or together with its anhydride of the formula (IV) to said liquid reaction medium, and

where

5 R¹ is hydrogen or a C₁-C₄₀ carbon-containing group,

10 R² is hydrogen or a C₁-C₄₀ carbon-containing group, or

15 R¹ and R² together form a cyclic ring system,

20 R³ is a C₁-C₄₀ carbon-containing group and

25 X is an element of the 16th group of the Periodic Table or is a divalent nitrogen group -(N-R⁴)-, where R⁴ is an electron-withdrawing radical which is selected from the group consisting of perhalogenated C₁-C₄₀ carbon-containing radicals and C₁-C₄₀ organosulfonyl groups.

2. A process as claimed in claim 1, wherein X is sulfur.

3. A process as claimed in claim 1 or 2, wherein the strong organic acid is a C₁-C₈-alkylsulfonic acid.

4. A process as claimed in any of claims 1 to 3, wherein the water absorbent is phosphorus pentoxide.

25 5. A process as claimed in any of claims 1 to 4, wherein at least 50% by weight of the liquid reaction medium consists of a mixture of methanesulfonic acid and phosphorus pentoxide.

30 6. A process as claimed in any of claims 1 to 5, wherein the molar ratio of the heterocyclic compound of the formula (II) to the α,β -unsaturated carboxylic acid of the formula (III) is in the range from 5 : 1 to 1 : 100.

35 7. A process as claimed in any of claims 1 to 6, wherein the mass ratio of the heterocyclic compound of the formula (II) to the liquid reaction medium is in the range from 1 : 2 to 1 : 1000.

40 8. A process as claimed in any of claims 1 to 7, wherein the mass ratio of the water absorbent to the strong organic acid is in the range from 1 : 99 to 25 : 75.

9. A process as claimed in any of claims 1 to 8, wherein the reaction is carried out in the temperature range from 20 to 200°C.

5

10

15

20

25

30

35

40